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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/938,492 | 08/27/2001 | Michael Mehigan | 740250-849 | 2877 |

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| EXAMINER |
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THOMPSON, JAMES A

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| ART UNIT | PAPER NUMBER |
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2624

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/938,492

Applicant(s)

MEHIGAN, MICHAEL

Examiner

James A. Thompson

Art Unit

2625

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 02 February 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☒ Applicant's reply has overcome the following rejection(s): rejections of claims 12-14 under 35 USC §112, 2nd paragraph.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____
Claim(s) objected to: _____
Claim(s) rejected: 1-14.
Claim(s) withdrawn from consideration: _____

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached.
12. ☒ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). 12/12/05
13. ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The proposed amendments to the claims are made to claims 12-14 for the purpose of overcoming the rejections under 35 USC §112, 2nd paragraph, listed in items 4-5 of the previous office action, dated 27 October 2005 and mailed 02 November 2005. Therefore, the **proposed amendments to the claims are entered.**

Response to Arguments

2. Applicant's arguments, see page 6, lines 8-12, filed 02 February 2006, with respect to the rejection of claims 12-14 under 35 USC §112, 2nd paragraph have been fully considered and are persuasive. The rejection of claims 12-14 under 35 USC §112, 2nd paragraph listed in items 4-5 of said previous office action has been withdrawn.

3. Applicant's arguments filed 02 February 2006 have been fully considered but they are not persuasive.

Regarding page 6, line 26 to page 9, line 23: *Applicant argues* that there is no second dithering technique in Kanno (US Patent 4,998,122).

Examiner responds that the first threshold value calculation section (figure 1(6) of Kanno) and the second threshold value calculation section (figure 1(7) of Kanno) calculate thresholds for dithering based on a selection value (column 8, lines 1-6 of Kanno). Furthermore, since two different forms of dithering are needed to process either a bold-character region (column 5, lines 21-27 of Kanno) or a region which is not a bold-character region (column 9, lines 36-

43 of Kanno), then clearly there are two different dithering techniques. One dithering technique establishes threshold values that are better suited to processing bold-character image regions. The other dithering technique establishes threshold values that are better suited to processing non-bold-character image regions.

Applicant argues that impermissible hindsight is used in applying Ostromoukhov (US Patent 5,438,431) and that Examiner is connecting well-known components in a way that would not have been obvious to one of ordinary skill in the art at the time of the invention.

Examiner argues that, while the clustered-dot and dispersed-dot techniques are taught separately in the Background section of Ostromoukhov, the proper application of each technique and the reasons why one of ordinary skill in the art at the time of the invention would use each technique are also described. Kanno teaches processing the line-like part of the halftone image by a first dithering technique (column 5, lines 3-6 and lines 21-27 of Kanno) or a second dithering technique (column 9, lines 36-43 of Kanno) according to the predetermined property of the line-like part (column 4, lines 19-22 of Kanno). Ostromoukhov teaches that clustered dot dithering does not render the smaller image details very well (figure 1 and column 2, lines 4-7 of Ostromoukhov) and dispersed dot dithering is better for rendering the smaller image details (column 1, lines 45-47 of Ostromoukhov), but can have certain banding artifacts (figure 2 and column 1, lines 50-54 of Ostromoukhov). Clustered-dot dithering is taught by Ostromoukhov to be advantageous for a restricted number of gray levels (column 2, lines 1-7 of Ostromoukhov) and dispersed-dot dithering is taught

Art Unit: 2625

by Ostromoukhov to be advantageous for fine details (column 1, lines 45-47 of Ostromoukhov). Since Kanno already teaches that different dithering techniques can be selected among for the purpose of processing different types of image data, and Ostromoukhov teaches the uses of clustered-dot dithering and dispersed-dot dithering for different types of image data, then clearly Ostromoukhov would have motivated one of ordinary skill in the art at the time of the invention to select between dithering techniques, as taught by Kanno, the dithering techniques being clustered-dot dithering and dispersed-dot dithering, each operating based on the type of image data to which they are best suited, as set forth by Ostromoukhov.

Applicant's analogy with regard to transistors and other circuit components does not correspond to Examiner's prior art rejection since, if one only had references concerning basic circuit components, there would be no *motivation* to combine them together to form, for example, a phonograph or a telephone. Ostromoukhov, on the other hand, clearly provides the motivation one of ordinary skill in the art at the time of the invention would have needed to combine the teachings of Ostromoukhov with Kanno.

Regarding page 9, line 24 to page 10, line 14 and page 11, lines 3-8: *Applicant argues* that the teachings of Ostromoukhov are effective for a range that is greater than the range claimed by Applicant.

Examiner responds that clustered-dot dithering is selected for the case of medium resolution (200-600dpi) in image areas with a limited number of gray levels (column 2, lines 1-7 of Ostromoukhov) and dispersed-dot dithering is selected to render finer details, but Ostromoukhov does not limit its use to a

Art Unit: 2625

particular range of resolutions (column 1, lines 45-47 of Ostromoukhov). The invention of Ostromoukhov is a different disclosed embodiment and demonstrates how the invention set forth in later portions of Ostromoukhov is better than the prior art set forth in the Background (column 2, lines 33-44 of Ostromoukhov).

Regarding page 10, line 15 to page 11, line 2:

Ostromoukhov already teaches applying clustered-dot and dispersed-dot dithering to printers in the 200-600 dpi range (column 2, lines 1-7 of Ostromoukhov). The mere fact that the printing arts have advanced since the Ostromoukhov patent was issued does not alter the fact that printing in the 200-600 dpi range is taught in the prior art. In the 200-600 dpi printer environment taught by Ostromoukhov, 4 dots would clearly be one value in which the line-like part taught by Kanno would be considered bold. Some particular value must be selected as a threshold in order to operate the printer system. Therefore, a threshold value of 4 dots is a mere engineering design choice. This obvious design choice is based upon the teachings of Kanno, Ostromoukhov and Harrington (US Patent 5,153,576), and not Applicant's present specification. As stated, some threshold must be selected. Thus, given the 200-600 dpi printer environment taught by Ostromoukhov, a 4-dot threshold is a reasonable selection for an obvious engineering design choice.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



13 February 2006

James A. Thompson
Examiner
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